Section 3-1: Constant-Increase and Constant-Decrease Situations

Warm-up: Look at the four graphs on page 139 as such:
a. Constant Increase b. Linear Combination c. Point-Slope d. Step Function

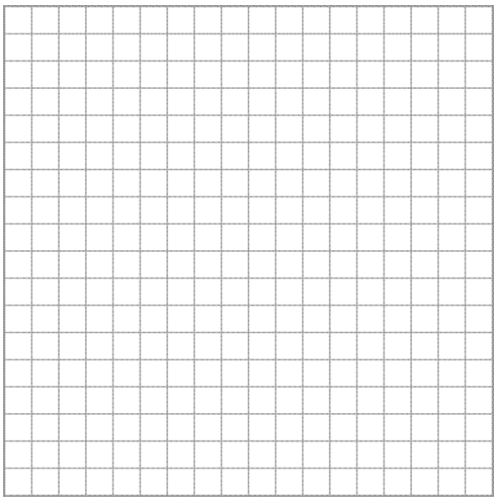
1. Name at least two points on each graph.

2. Give the domain and range of each function.

Linear Equation:

Example 1: Matt Mitarnowski sells sports cars. He gets a base salary of $30,000 per year plus 2% of his sales. If Matt's sales for the year totaled *D* dollars, what is his salary *S*?

Let's look at a table and graph for this data:



Initial Condition:

Explore: Calculate the slope for the situation in example 1.

Slope-intercept Form:

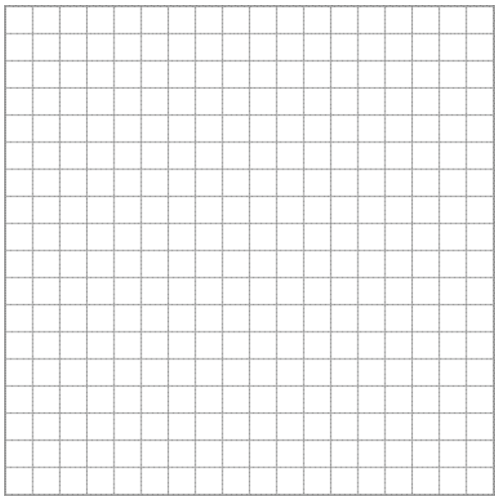
Linear Function:

Example 2: Fuzzy Jeff gets an allowance of $15 per week. Whenever his parents pick up a dirty dish he left out, Jeff loses $.30.

a. Write an equation modeling this situation.

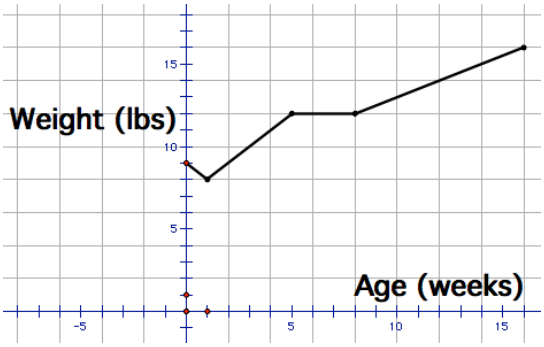
b. Graph the equation.

c. If Jeff got no allowance, how many dishes did he leave out?



Piecewise Linear Graph:

Example 3: The graph below describes Shecky's weight over the first 16 weeks of his life. Write out an explanation of each piece of the piecewise linear graph.



Homework:

"Fortune favors the brave." - Publius Terence